

IN THE CLAIMS

The status of each claim in the present application is listed below.

1. (Currently Amended) A process for preparing a cycloolefin addition polymer, comprising addition-polymerizing monomers containing a cycloolefin compound represented by the following formula (1) in the presence of:

a multicomponent catalyst comprising:

(a) a palladium compound,

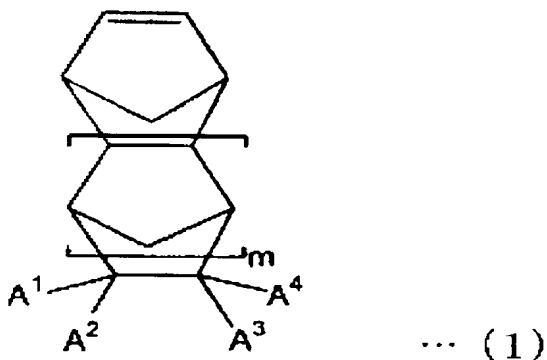
(b) a compound selected from an ionic boron compound, an ionic aluminum compound, a Lewis acidic aluminum compound and a Lewis acidic boron compound, and

(c) a phosphine compound having a substituent selected from an alkyl group, a cycloalkyl group, and an aryl group of 3 to 15 carbon atoms, and having a cone angle (θ deg) of 170 to 200, or its phosphonium salt, and

ethylene,

wherein the amount of ethylene used in the addition polymerization is in the range of 0.1 to 5.0% by mol based on all the monomers;

[Chemical Formula 1]



wherein A^1 to A^4 are each independently a hydrogen atom, an alkyl group, a cycloalkyl group, an aryl group, an ester group, an alkoxy group or a trialkylsilyl group of 1 to 15 carbon atoms, or a hydroxyl group, and may be each bonded to a ring structure through an alkylene group of 1 to 20 carbon atoms or a linkage of 0 to 10 carbon atoms containing at least one atom selected from an oxygen atom, a nitrogen atom and a sulfur atom, A^1 and A^2 may together form an alkylidene group of 1 to 5 carbon atoms, a substituted or unsubstituted alicyclic or aromatic ring of 5 to 20 carbon atoms or a heterocyclic ring of 2 to 20 carbon atoms, A^1 and A^3 may together form a substituted or unsubstituted alicyclic or aromatic ring of 5 to 20 carbon atoms or a heterocyclic ring of 2 to 20 carbon atoms, and m is 0 or 1.

2. (Original) The process for preparing a cycloolefin addition polymer as claimed in claim 1, wherein the multicomponent catalyst comprises:

(a) a palladium compound,

(b) a compound selected from an ionic boron compound, an ionic aluminum compound, a Lewis acidic aluminum compound and a Lewis acidic boron compound,

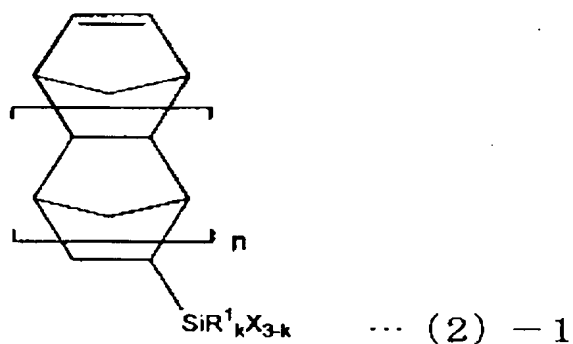
(c) a phosphine compound having a substituent selected from an alkyl group, a cycloalkyl group and an aryl group of 3 to 15 carbon atoms, and having a cone angle (θ deg) of 170 to 200, or its phosphonium salt,

and additionally

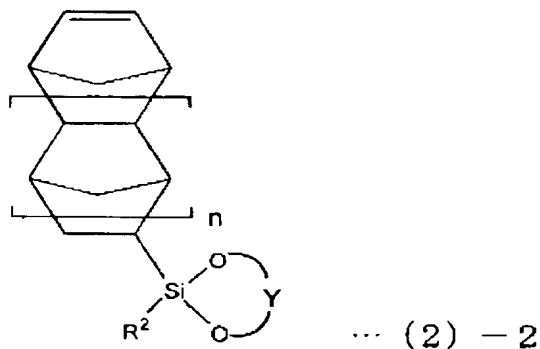
(d) an organoaluminum compound.

3. (Original) The process for preparing a cycloolefin addition polymer as claimed in claim 1 or 2, wherein monomers containing 70 to 98% by mol of the cycloolefin compound represented by the formula (1) and 2 to 30% by mol of a cycloolefin compound having an alkoxysilyl group and represented by the following formula (2)-1 and/or the following formula (2)-2 are addition-polymerized;

[Chemical Formula 2]



[Chemical Formula 3]



wherein R¹ and R² are each a substituent selected from an alkyl group, a cycloalkyl group, an aryl group of 1 to 10 carbon atoms, and a halogen atom,

X is an alkoxy group of 1 to 5 carbon atoms,

Y is a residue of a hydroxyl group of an aliphatic diol of 2 to 4 carbon atoms,

k is an integer of 0 to 2, and

n is 0 or 1.

4. (Currently Amended) The process for preparing a cycloolefin addition polymer as claimed in ~~any one of claims 1 to 3~~ Claim 1 or 2, wherein the palladium compound (a) is an organic carboxylic acid salt of palladium or a β -diketone compound of palladium.

Claim 5: (Canceled).

6. (Currently Amended) The process for preparing a cycloolefin addition polymer as claimed in ~~any one of claims 1 to 5~~ Claim 1 or 2, wherein monomers containing bicyclo[2.2.1]hept-2-ene in an amount of not less than 80% by mol in all the monomers are addition-polymerized in the presence of a polymerization solvent containing an alicyclic hydrocarbon solvent in an amount of at least 50% by weight.

7. (New) The process for preparing a cycloolefin addition polymer as claimed in Claim 1, wherein (b) is an ionic boron compound.

8. (New) The process for preparing a cycloolefin addition polymer as claimed in Claim 1, wherein (b) is an ionic aluminum compound.

9. (New) The process for preparing a cycloolefin addition polymer as claimed in Claim 1, wherein (b) is a Lewis acidic aluminum compound.

10. (New) The process for preparing a cycloolefin addition polymer as claimed in Claim 1, wherein (b) is a Lewis acidic boron compound.

11. (New) The process for preparing a cycloolefin addition polymer as claimed in Claim 1, wherein the phosphine compound has an alkyl group substituent.

12. (New) The process for preparing a cycloolefin addition polymer as claimed in Claim 1, wherein the phosphine compound has a cycloalkyl group substituent.

13. (New) The process for preparing a cycloolefin addition polymer as claimed in Claim 1, wherein the phosphine compound has an aryl group substituent.

14. The process for preparing a cycloolefin addition polymer as claimed in Claim 1, wherein the palladium compound is an organic carboxylic acid salt of palladium, an organic phosphorous acid salt of palladium, an organic phosphoric acid of palladium, an organic sulfonic acid salt of palladium, a diketone compound or a palladium compound.

15. (New) The process for preparing a cycloolefin addition polymer as claimed in Claim 1, wherein the amount of ethylene used in the addition polymerization is in the range of 0.5 to 2.0% by mol based on all the monomers.